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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/587,387 | 06/05/2000 | Yukihiro Matsumoto | 2000 0669A | 7551 |

7590 04/27/2004

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2033 K Street NW
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EXAMINER

MANOHARAN, VIRGINIA

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1764

DATE MAILED: 04/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------|----------------------------------|--|
| Office Action Summary | Application No. 09/587,387 | Applicant(s) MATSUMOTO ET AL. | |
| | Examiner Virginia Manoharan | Art Unit 1764 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-18 and 29-35 is/are pending in the application.
- 4a) Of the above claim(s) 11-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 29-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a) Claim 29 recites the limitation "the purifying section" in line 4. There is insufficient antecedent basis for this limitation in the claim.
- b) Reciting-the distillation column—in claim 1, line 8 and –the gas and liquid contact chamber—in line 11, in lieu of –"a distillation column" and " a gas and liquid contact chamber" are better to avoid ambiguity in the claims. The latter recitations are already recited initially in lines 4 and 5 of claim 29, respectively.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 29-31 & 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horlenko (4,301,298) with or without JP 10204030.

Horlenko discloses a process comprising distilling a reaction product containing ethyl acrylate in a vacuum distillation system at a reduced pressure to obtain e.g., a first gaseous light ends stream containing said ethyl acrylate, wherein said stream is passed through a vacuum pump providing the reduced pressure for said vacuum distillation system; and wherein the gaseous light ends contacts a recycle liquid seal fluid to result

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in a gas-liquid mixture, the recycle stream containing a polymerization inhibitor. See col.5, lines 64-68 through col.6, lines 1-52. While not positively recited, obviously, the above first gaseous light ends stream which is passed through the vacuum pump of Horlenko is an uncondensed gas. Horlenko did not mention an ejector. However, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to add a steam ejector in the process of Horlenko, in the manner as taught by JP '030, since Horlenko already operates its distillation system at reduced pressure with a vacuum pump, and adding would obviously enhanced the function of the pump thereby increasing the effectiveness and/or efficiency of the distillation system.

The claimed second gas- liquid contact chamber is deemed to be a matter of additive, i.e., adding to the known first contact chamber.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horlenko with or without JP '030 as applied to claims 29-31 and 33-35 above, and further in view of Nezu.

To incorporate a surface condenser and wetting the inside surface of the condenser in the process of Horlenko would have been obvious to one of ordinary skill in the art so that undesirable polymerization can be prevented as taught by Nezu. Note e.g., col. 3, lines 54-67 through col. 4, lines 1-28 of the Nezu's reference.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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vacuum section is not disclosed..." are not considered well-taken. The argued "inhibiting the polymerization in the vacuum section is of no patentable significance as it is recited only in the preamble of claim 1. The preamble may or may not even be given a patentable weight.

With regards to where the vacuum pump of Nezu is to be placed in Hego's purifying system, as argued, it is well-recognized by now, that to support a rejection under 35 USC 103 based upon a combination of references it is not necessary that the features of one reference be capable of bodily insertion into another reference. Hego suggests the incorporation of a condenser in its system, which naturally or inherently produces vacuum in a distiller.

While Hego's cooling column operates at elevated pressure, as further argued, however, Hego likewise suggests at column 4, lines 14-16 that "one skilled in the art will be able to determine the appropriate pressure to use to avoid impairment...efficiency".

Thus, in the absence of anything, which may be "new" or "unexpected result", a prima facie case of obviousness has been reasonably established by the art and has not been rebutted.

Unexpected results must be established by factual evidence. Mere arguments or conclusory statements in the specification, applicants' amendments, or the Brief do not suffice. In re Linder, 457 F.2d 506, 508, 173, USPQ 356, 358 (CCPA 1972). In re Wood, 582, F.2d 638, 642, 199 USPQ 137, 140 (CCPA 1978).

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A). Dirks et al discloses a process for the purification of alkyl esters wherein polymerization inhibitors are added to the overhead vapors prior to or after partial condensation.

B). Yoneda et al discloses the distillation of an easily polymerizable substance.

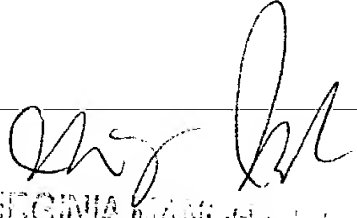
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia Manoharan whose telephone number is (571) 272-1450.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola, can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Manoharan/tgd

April 19, 2004


VIRGINIA MANOHARAN
PRIMARY EXAMINER
ART UNIT 122 / 164